
Therapist effectiveness: Using psychotherapy outcome measures to detect progress in evidence-based psychotherapy and training in clinical psychology

Efectividad del terapeuta: Uso de medidas de evaluación para detectar progreso en psicoterapia basada en la evidencia y entrenamiento en psicología clínica

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Abstract

This research aimed to determine if psychotherapists' clinical records demonstrated the use of evidence-based practices (EBP) related to outcome measures to detect their patients' progress in a training center. The method used was to create a database with the *Cuestionario Resultados de Intervención* (CRI) results of a sample of eligible adult patients from a mental health clinic and training center for psychologists and compare its progress through their psychotherapy. The CRI is an outcome measure validated for use in Puerto Rico and is a mandated instrument used at this clinic. The sample revised for eligible CRI protocols consisted of n=200 records; due to the low number of completed CRI records, the final sample was n=8 records. The low final sample may imply that the EBP of outcome measures are not followed in this clinic at the time of the study. There was a significant correlation between the use of the CRI by the supervisor and the psychotherapist's treatment modification. However, this was found in a small sample with a small effect size. Recommendations for adherence and implementation fidelity of outcome measures are given at the end of this article.

Keywords: outcome measures, evidence-based practice, implementation fidelity, training

Resumen

Esta investigación tuvo como objetivo determinar si los registros clínicos de los psicoterapeutas demostraron el uso de prácticas basadas en evidencia (PBE) relacionadas con el uso de medidas de resultado para detectar el progreso de sus pacientes en un centro de adiestramiento. El método utilizado fue crear una base de datos con los resultados del Cuestionario Resultados de Intervención (CRI) de una muestra de pacientes adultos elegibles de una clínica de salud mental y centro de formación para psicólogos y comparar su progreso a través de su psicoterapia. El CRI es una medida de resultado validada para su uso en Puerto Rico y es un instrumento utilizado mandatoriamente en esta clínica. La muestra revisada para protocolos de CRI elegibles consistió en n = 200 expedientes; debido al bajo número de expedientes con los CRI completados, la muestra final fue de n = 8 expedientes. La muestra final baja puede implicar que la PBE de utilizar medidas de resultado no se sigue en esta clínica. Hubo una correlación significativa entre el uso del CRI por parte del supervisor y la modificación del tratamiento del psicoterapeuta; sin embargo, esto se encontró en una muestra pequeña con un tamaño del efecto pequeño. Las recomendaciones para la adherencia al uso y la fidelidad de implementación de las medidas de resultado se dan al final de este artículo.

Palabras claves: medidas de resultado, práctica basada en evidencia, fidelidad de implementación, adiestramiento

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Introduction

The movement of Evidence-Based Practice (EBP) started with the medical community in the 1980s and 1990s, where the concept "best practices" emerged (Martínez-Taboas, 2014; Swan et al., 2015) to distinguish effective from ineffective treatment. This pushed the psychological community to establish their EBP standards. The APA Presidential Task Force on Evidence-Based Practice (APA Task Force, 2006) was created by the American Psychological Association (APA) to define and create the standards for Evidence-Based Practice in Psychology (EBPP). They summed up the three pillars of EBPP as "the integration of the best available research with clinical expertise in the context of patient² characteristics, culture, and preferences" (Task Force, 2006, p. 273).

This research is focused on the pillar for *Best Research Evidence* to explain why there is a need for using validated outcome measures to increase therapist effectiveness. This pillar establishes that there should be reasonable and robust evidence organized by a hierarchy. Clinical anecdotes and uncontrolled case studies are not prominent in this hierarchy because of a lack of internal and external validity. Nevertheless, they are essential for developing new clinical ideas and as examples (Martínez-Taboas, 2014).

In EBPP, there is space to use therapeutic interventions with persuasive evidence of effectiveness but may not comply with the Empirically Supported Therapy (EST) standards. The authors claim that by measuring patients' progress with a validated clinical scale, it can be determined that a

therapeutic intervention has persuasive evidence of effectiveness.

One important reason for using validated outcome measures is the rising healthcare cost, making governments request efficient and cost-effective interventions (Barlow et al., 2013). Another issue to have in mind is that clinicians and researchers regularly are the prey to cognitive biases (Stuart & Lilienfeld, 2007). Humans are not good at making long-term predictions for therapy outcomes; this is better handled with statistics and a more systematic and formal method (Lambert, 2015; Magnavita & Lilienfeld, 2015). Therefore, through measuring outcomes, the method of science can solve the identification of potential treatment failures better than clinical intuition. Outcome measures (OM) can work as a thermometer to help save money by avoiding personal biases, identifying when significant changes are needed, and rightly extending or ending the therapy (Finch et al., 2001; Lambert, 2015; Magnavita & Lilienfeld, 2015).

To illustrate this bias argument, Lambert indicates that therapists tend to estimate about 85% of their patients to have a positive outcome. Clinical trials show that improvement is closer to two-thirds, and in routine care estimates, it is closer to one-third of patients (Lambert, 2015). Also, Hannan et al. (2005) provide evidence that therapists who did not use the OM of the study saw nearly 40% of patients in an improved state when they reported more symptoms (on the OM) than they had when they started treatment. This shows that clinical intuition can be prone to bias. Several OMs can be used as effective and efficient measures to

² In this writing, the term *patient* and *client* will refer to the child, adolescent, adult, older adult, couple, family, group, organization, community, or other population receiving psychological services. This is

consistent with the Task Force usage (2006, p.273), so it can be tied to the discussions of EBP in other areas of healthcare.

reduce falling in these cognitive pitfalls (for a critical review, see Tarescavage & Ben-Porath's, 2014).

For this study, which examines the use of OMs to enrich clinical judgment and decrease bias, an OM with global measures and sensitivity to change is used to assess broader constructs (e.g., sadness, stress) that are present in psychopathologies. Global measures are in line with the idea that mental disorders are not conceived as discrete categories but are instead perceived as dimensional concepts (the *p* factor³, inspired by the *g* factor in intelligence) in transdiagnostic approaches (Caspi et al., 2014). The dimensional concept implies that regardless of the preferred psychotherapy model, the OM will detect it if there is progress.

In this research, the OM used is the *Cuestionario Resultado de Intervenciones* (CRI). The CRI is based on the Outcome Questionnaire-45 (OQ-45) developed by Michael Lambert in 1992. The OQ-45 is not based on any specific psychological theory; it was developed for baseline screening and to capture change as a brief measure of symptoms across various disorders and syndromes, including stress-related illness (Lambert, 2015). Its efficacy has been demonstrated with a diverse population (Germans, Dutch, Israelis, Latinxs, Pacific Islander, and Asians) as long as the instrument is adapted in terms of language to that population (Gregersen et al., 2004; Gross et al., 2015; Lambert, 2015; Wennberg et al., 2010).

Clinical hypothesis testing should be central in the psychotherapy process, as it should be not only artful but also scientific. This can be done by measuring the patient's

progress and comparing it with treatment goals. Therefore, psychology needs to develop and apply well-developed instruments capable of efficiently and effectively measure the patient's progress to adapt the psychotherapy to the outcomes of these instruments. With this research, in a Puerto Rican clinic, the researchers want to identify if the constant evaluation of progress extrapolates in the therapist modification of their treatment and patient improvement. To reach this goal, this exploratory research, using quantitative techniques, aims to (1) determine if results from the CRI are integrated into the psychotherapeutic process (i.e., clinician's progress notes, supervisor's notes, and treatment plan) and (2) establish if the patient improved as a result of the adaptation of the therapy based on the CRI results.

Method

This research is a secondary data analysis obtained from the CRI results given to patients in their psychotherapy process. It is a longitudinal time-series non-experimental within-subjects design that helps demonstrate the effect of using the CRI across the time.

Sample

The sample was obtained from the community mental health clinic records. The clinic is from a non-profit private university in the metropolitan area of Puerto Rico. The sampling method was by convenience. Due to labor, infrastructure, and time constraints, it was determined that the study would revise a sample of 200 records to select those that complied with the inclusion and exclusion criteria. Records from patients 21 years old or older, with a sixth grade or more of schooling, and at least two CRI administered

³ Higher scores were associated with greater life impairment, greater familiarity, worse developmental

histories and more compromise brain function in early life (Caspi et al., 2014).

were included. Records that did not have the CRI scored and did not comply with the inclusion criteria were excluded.

Materials and instruments

Cuestionario Resultado de Intervenciones (CRI)

This instrument is the Spanish version validated in Puerto Rico (n=100) of the OQ-45. It consists of 45 items, in a five-point Likert type scale, filled by the patient and used to reliably assess treatment progress for adults 18 years old and older (Lambert, 2015; Van Harlinger, 2002). The clinical cut point is 63 or more -where less punctuation means mental health closer to normal with significant clinical change been SD=14 points (Van Harlinger, 2002). It is estimated to take around 20 minutes to fill out. The CRI was translated and validated in Puerto Rico from the Outcome Questionnaire-45 in 2002 and shared its psychometric properties (Van Harlinger, 2002). The CRI is significantly sensitive to change. It has a large normative database, including a Puerto Rican sample, with reliable scores. Research supports that it correctly measures improvement in patients who are initially deteriorating in treatment (Lambert, 2015). It has high reliability (.93) and moderate to high concurrent validity ($r = .50 - .85$). The total score and subscales' internal consistency goes from excellent to acceptable (.93, .92, .74 & .70). A limitation of the CRI is the absence of documented factorial validity (Van Harlinger, 2002). It consists of three dimensions (i.e., subscales) and a total score:

1. Interpersonal Relations (IR): Measures satisfaction, adequacy levels, and interpersonal conflicts (marriage, family, friends, and others).
2. Social Roles (SR): Measures the level of function in the functional performance of

social roles (studies, employment, and others).

3. Symptom Distress (SD): Measures the patient's internal discomfort.
4. Total score: Measures global mental health.

Progress Notes, Supervision Notes, and Treatment Plan

Notes from 2014 to 2017 were read to confirm if the CRI's three dimensions (IR, SR & SD), total score, or both were integrated into the progress notes, the supervision notes, and the treatment plan.

Form for Transcribing Sociodemographic Details and Therapy Outcomes

A form was developed to collect the data from the participating records (see link for details of the form: <https://tinyurl.com/y48uhqfh>). The instrument collects sociodemographic information, physical and mental health status, including previous medical conditions, diagnosis, and mental health treatment. Also, the instrument explores the patient's reasons for looking for services in the clinic.

The research was approved by the Carlos Albizu University's Institutional Review Board. To preserve anonymity and avoid any unauthorized exposure of Protected Health Information (PHI), an alphanumeric identification code was used in the database to identify each record.

Statistical Analysis

Frequency analysis was conducted to examine the frequency distribution of the study's variables (Hernández Sampieri et al., 2014). The data were analyzed with Spearman's Rho in SPSS –version 20 to assess the hypotheses and measure the

association's strength between the variables. This analysis is a non-parametric test used when the data has violated parametric assumptions such as non-normally distributed data, as in this study's case (Field, 2009).

Results

Sample Selection and Extraction

A step-by-step process was followed to select records to be evaluated (See Figure 1 for the steps followed).

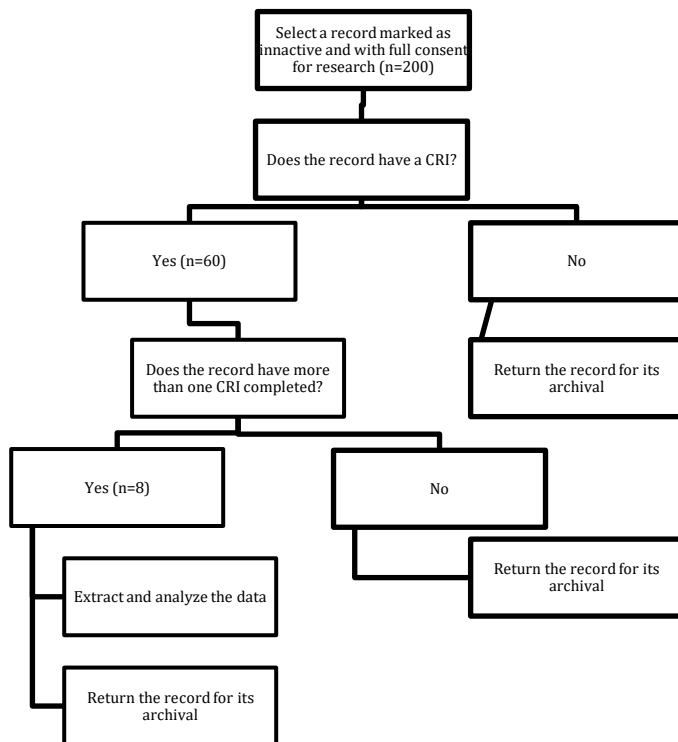


Figure 1. Selection process for records with CRI.

In the last step, the sample's information was extracted (sociodemo-graphic data, CRI total score, CRI score reported in progress notes, supervisor notes, treatment plan, and modification of treatment based on CRI total score) and analyzed with Spearman's Rho.

CRI Sample

According to the frequency of treatment modification, based on the variable "Clinician modified treatment based on the CRI Score," only 25% of the time any modification was made considering the treatment progress. Table 1 presents the frequency and percentage for the variables that indicate that the CRI Score was used to evaluate the patient's progress. Across the indicators, the data shows a low percentage of acknowledgment for using the CRI Score to determine if the patient is progressing.

Table 1: Frequency for progress evaluation of the patients by their clinician

Indicators		Progress evaluation is present	Progress evaluation is NOT present
Progress Note	Frequency	1	7
	%	13%	88%
Supervisor Note	Frequency	2	6
	%	25%	75%
Treatment Plan	Frequency	3	5
	%	38%	63%

Note: All percentages were rounded to their closest ten.

Administered CRI and Progress Evaluation

In the sample, the CRI was administered 23 times, while only six times the CRI score was included in any of the patients' notes or treatment plans.

Correlation of CRI

The results in figure 2 of the Spearman correlation indicated that there is a significant positive association between the treatment plan (*Plan de tratamiento*) reporting the CRI score and the supervision note mentioning the CRI score (*Nota de supervisión menciona el CRI*; $r_s(6) = .75, p = .003$). The same

positive significance was found between the treatment plan (*Plan de tratamiento*) and the psychotherapist using the CRI score to identify depression and psychosomatic symptoms (*Clínico hizo modificación a causa de la puntuación del CRI*; $r_s(6) = .75$, $p = .003$).

		Puntuación total CRI 1	Puntuación total CRI 2	Puntuación total CRI 3	Puntuación total CRI 4	Nota de progreso	Nota de supervisión menciona el CRI	Plan de tratamiento menciona el CRI
Spearman's rho	Puntuación total CRI 2							
	Correlation Coefficient		0.09					
	Sig. (2-tailed)		0.87					
Puntuación total CRI 3	Correlation Coefficient	-0.1	0.5					
	Sig. (2-tailed)	0.87	0.67					
Puntuación total CRI 4	Correlation Coefficient	0.5		0.5				
	Sig. (2-tailed)	0.67		0.67				
Nota de progreso	Correlation Coefficient	-0.25		0	-0.87			
	Sig. (2-tailed)	0.55		1	0.33			
Nota de supervisión menciona el CRI	Correlation Coefficient	0.13	-0.62				-0.22	
	Sig. (2-tailed)	0.77	0.19				0.6	
Plan de tratamiento	Correlation Coefficient	0.06	-0.49				-0.29	.75*
	Sig. (2-tailed)	0.89	0.33				0.48	0.03
Clínico hizo modificación a causa de la puntuación del CRI	Correlation Coefficient	0.13	-0.62				-0.22	1.00**
	Sig. (2-tailed)	0.77	0.19				0.6	0.03

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Figure 2: Correlation of CRI score with modification of treatment

Discussion

The results show that the use of the CRI total score is related to its inclusion in the supervisor's notes, the development of the treatment plan, and the psychotherapist modification of the treatment. It must be underlined that this significance was found only in a small sample with a small effect size; thus, these results cannot be generalized to the rest of the clinic's psychotherapists. In contrast, no significant correlation was found between a CRI score and a variable that measured treatment change (i.e., *Nota de progreso*, *Nota de supervisión menciona el CRI*, *Plan de tratamiento*, *Clínico hizo modificación a causa de la puntuación del CRI*). This lack of correlation implies that the CRI score is not entirely integrated into the psychotherapy and clinical training process.

The finding is congruent with limitations in the adoption of EBPP in different settings.

It is in particular agreement with the "pragmatic, educational, and attitudinal obstacles" described by Lilienfeld et al. (2013, p. 894). These obstacles are notable in practice settings, such as the one studied, where available time is insufficient to consume scientific literature, increasingly complex psychotherapy methods, and outcome literature. Other limiting factors that may explain the results is the lack of knowledge about training materials, the learning curve of new information, challenging to read statistics in the research literature, and the "us vs. them" mentality that can separate the clinician from the academic (Lilienfeld et al., 2013).

Limitations

The total quantity of revised records for completed CRI protocols ($n=200$) versus the final number analyzed ($n=8$) must be highlighted as a restricting factor. Although the limited availability of data impedes a more in-depth statistical analysis and generalization of results, it reveals the difficulties encountered when adopting EBPP. Furthermore, because the first data collection occurred in 2017, it would be beneficial to collect CRI data once again from the same clinic to confirm if the absence of protocols continues or was caused by any other reason, such as administrative procedures.

Recommendations

The limited availability of completed CRI raises the question if the clinic's psychotherapists in-training and supervisors are monitoring their patients' improvement and hence are effective therapists or not (Lambert, 2015; Magnavita & Lilienfeld, 2015). It could be implied that the clinic's supervisors and trainees do not follow fully the ethical obligation of evaluating

improvement, avoiding iatrogenesis, and using objective criteria at the moment of data collection (Lambert, 2015; Stuart & Lilienfeld, 2007). At least the progress notes did not reflect it. Not following the EBPP could jeopardize the patients' recuperation and the trainees' learning. The evidence shows that measuring progress is related to improved patient outcomes and therapy modification (Finch et al., 2001; Lambert, 2015; Magnavita & Lilienfeld, 2015). This issue is dissonant with the clinic's aim, a training space philosophically and theoretically oriented on offering evidence-based services (Albizu University, n.d.).

Implementation fidelity issues should also be explored to reroute the clinic to its evidence-based path. The concept of implementation fidelity means that clinical processes (i.e., interventions and protocols) are followed as designed (Carroll et al., 2007). Low adherence could negatively affect organizational processes (e.g., training, documentation), directly disturbing the psychotherapist training and patient improvement. If there are implementation fidelity issues, then an organizational mechanism to increase the adherence should be implemented. Some mechanisms that can be used are (a) weekly public reports of CRI use, (b) training the trainer on how to use the CRI, (c) eliminate barriers to implementation (e.g., provide protected time for supervisors training), (d) incentivize the use of EBPP (e.g., awards, recognitions), and (e) follow up training with supervision focused on evaluating the material learned (Lilienfeld et al., 2013). An example of an implementation report is the Cognitive Rating Scale (CRS). The CRS is used to confirm implementation fidelity in cognitive therapy (CT). It was developed in the 1980s to evaluate if the therapist was adherent to the CT model and ensure that they moved the patient from the dysfunctional cycle by having the appropriate therapeutic competence (James, Blackburn,

& Reichelt, 2001). A similar tool could be created for the clinic examined in this research.

A solution for improving the actual organizational processes (i.e., the small use of outcome measures) in these clinics in Puerto Rico and worldwide is the Lean Six Sigma method. This method is used in the manufacturing and healthcare industries, which are very familiar in manufacturing countries like Puerto Rico, United States, Japan, Mexico, China, and others. This method seeks to improve performance by eliminating waste (e.g., unnecessary documentation) and defects (e.g., not including the appropriate information in a clinical note) while assuring quality in organizational processes (Improta et al., 2019; Lean Six Sigma Institute, n.d.; Vaishnavi & Suresh, 2020). Under Lean Six Sigma, a standard SOAP note template and an efficient documentation process could be developed. Hence, the trainees and trainers are all equally informed on what information the clinical note should include. It is critical to be aware that evidence-based practices are not limited to what psychological theory or technique is used, but it also is an appropriate assessment of the patient's progress.

Conclusion

EBPP is essential to treat patients, reduce iatrogenesis, and improve services ethically. This research showed that integrating EBPP can be challenging even for an academic psychology clinic oriented to evidence-based services. However, changes and the adoption of new processes are part of organizations' improvement; vast literature has been produced about this topic. Although the recommendations provided here are not a panacea of solutions, combined with Lean Six Sigma methods, they could help guide the

implementation of Evidence-Based Practices in Psychology.

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Conflict of Interest

At the time of the data collection, José Rodríguez-Quiñones was the director of the clinic. The authors have no other known conflict of interest to disclose.

Institutional Review Board Approval

Carlos Albizu University. IRB approval code: Spring 18-26.

Consent or Assessment forms

No consent or assent form was distributed to complete the secondary data analysis.

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